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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,631	09/30/2003	Kenneth D. Nelson	T-6133 (538-56)	6068

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EXAMINER

NILAND, PATRICK DENNIS

ART UNIT	PAPER NUMBER
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1796

MAIL DATE	DELIVERY MODE
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09/01/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/675,631	Applicant(s) NELSON ET AL.	
	Examiner Patrick D. Niland	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4/21/09.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11, 13-23, 25-37, 39-51 and 53-75 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 63-75 is/are allowed.
- 6) ☒ Claim(s) 1-11, 13-23, 25-37, 39-51 and 53-62 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. The amendment of 4/21/09 has been entered. Claims 1-11, 13-23, 25-37, 39-51, and 53-75 are pending.

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-11, 13-23, 25-37, 39-51, and 53-62 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the disclosed derivatives, does not reasonably provide enablement for all of the derivatives encompassed by the instant claims. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

A. The instant claims 1-11, 13-37, 39-51, and 53-62 recite “derivatives” without specifying the derivatives. Therefore the claims encompass all possible derivatives. The instantly claimed “derivatives” reads on an infinite number of compounds resulting from the potentially infinite number of derivations which can be performed on the recited compounds. The applicant’s argument that they do not agree with this assessment is unfounded. The claimed compounds can be substituted with alkyl groups having from 1 to an infinite number of carbons incrementally, which is an infinite number of derivations or can have from one to infinite number of monomers added thereto incrementally which is also an infinite number of derivations and we have yet to consider the vast majority of chemical reactions, even considering the exclusion of

nitrogen containing derivatives of the instant claims. In re Wands has 8 criteria, (MPEP 2164.01(a)), as shown below.

- (A)The breadth of the claims;
- (B)The nature of the invention;
- (C)The state of the prior art;
- (D)The level of one of ordinary skill;
- (E)The level of predictability in the art;
- (F)The amount of direction provided by the inventor;
- (G)The existence of working examples; and
- (H)The quantity of experimentation needed to make or use the invention based on the content of the disclosure.

It is noted that the instant claims read on all potential derivations of the recited compounds which encompasses an infinite number of compounds (Wands factor A). The specification does not describe how to make all such derivatives, how to add them to the claimed compositions, nor how to select those derivatives from the infinite list thereof which will function as required in the instant invention (Wands factors F, G). It would require an infinite amount of experimentation to determine how to make all of the derivatives encompassed by the instant claims and another infinite amount of experimentation to determine which of these derivatives would function in the instantly claimed invention as required (Wands factor H). Chemistry is an unpredictable art (Wands factor E). The ordinary skilled artisan has not imagined nor figured out how to make all of the derivatives encompassed by the instant claim of “derivatives” yet (Wands

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factors C, D, E, F, G, and H). The enabling disclosure is not commensurate with the full scope of the claimed “derivatives”.

See *Sitrick v Dreamworks, LLC* (Fed Cir, 2007-1174, 2/1/2008), particularly

“Before MICHEL, Chief Judge, RADER and MOORE, Circuit Judges.
MOORE, Circuit Judge.

112(1) Enablement - The enablement requirement is satisfied when one skilled in the art, after reading the specification, could practice the claimed invention without undue experimentation

We review the grant of summary judgment *de novo*. *Liebel-Flarsheim Co. v. Medrad, Inc.*, 481 F.3d 1371, 1377 (Fed. Cir. 2007). Summary judgment is appropriate “if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(c). Whether a claim satisfies the enablement requirement of 35 U.S.C. § 112, ¶ 1 is a question of law, reviewed *de novo*, based on underlying facts, which are reviewed for clear error. *AK Steel Corp. v. Sollac*, 344 F.3d 1234, 1238-39 (Fed. Cir. 2003). The evidentiary burden to show facts supporting a conclusion of invalidity is one of clear and convincing evidence because a patent is presumed valid. *Id.* The “enablement requirement is satisfied when one skilled in the art, after reading the specification, could practice the claimed invention without undue experimentation.” *Id.* at 1244.

112(1) Enablement - The full scope of the claimed invention must be enabled. A patentee who chooses broad claim language must make sure the broad claims are fully enabled.

The full scope of the claimed invention must be enabled. See *Auto. Techs. Int’l, Inc. v. BMW of N. Am., Inc.*, 501 F.3d 1274, 1285 (Fed. Cir. 2007). The rationale for this statutory requirement is straightforward. Enabling the full scope of each claim is “part of the *quid pro quo* of the patent bargain.” *AK Steel*, 344 F.3d at 1244. A patentee who chooses broad claim language must make sure the broad claims are fully enabled. “The scope of the claims must be less than or equal to the scope of the enablement” to “ensure[] that the public knowledge is enriched by the patent specification to a degree at least commensurate with the scope of the claims.” *Nat’l Recovery Techs., Inc. v. Magnetic Separation Sys., Inc.*, 166 F.3d 1190, 1195-96 (Fed. Cir. 1999).”

The applicant's arguments have been fully considered but are not persuasive for the reasons stated above. The case law cited by the applicant does not consider the above cited case law. The applicant's arguments do not consider the full scope of "derivatives" as required by the patent law, which do encompass an infinite number of derivations as stated above. The cited documents do not serve to enable the instantly claimed infinite number of derivatives, particularly those not disclosed by the instant enabling specification. The argument that one of skill in the art would "readily understand what is meant by the term "non-nitrogen containing derivatives of a polyalkylene succinic anhydride" does not address the above rejection, which is one of "scope of enablement", e.g. first paragraph, not lack of clarity, e.g. second paragraph. It remains unseen how the skilled artisan would make all encompassed "derivatives" from the instant specification, even considering the other cited documents, given the infinite scope of "derivatives", particularly considering all of the derivations and derivatives that have yet to be considered, thought of, and that we do not yet have the ability to make. Infinite experimentation is clearly "undue". Considering the vast orders of impossibility of making all of the instantly claimed "derivatives" relative to the relatively simple tasks of the above cited caselaw, the making of all of the instantly claimed derivatives as encompassed by the full scope of "derivatives" is far more "undue" experimentation than that required in the above cited case law. The argued portions of the instant specification do not specify all of the encompassed "derivatives" within the full scope of "derivatives" or teach how to make all of the encompassed "derivatives" within the full scope of "derivatives".

The applicant's arguments in this regard have been fully considered but are not persuasive for the reasons stated above. This rejection is therefore maintained.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-11, 13-23, 25-37, 39-51, and 53-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat. No. 3140997 Price in view of US Pat. No. 4601837 Valcho et al..

Price discloses compositions falling within the scope of "stable colloidal suspensions" having the instantly claimed components at column 1, lines 9-15 and 55-63, which acidic aqueous media is expected to form the instantly claimed polymolybdates with the claimed molybdenum compounds and to hydrate said polymolybdates, column 2, lines 1-72, particularly 1-5, 19-27, which encompasses the instant claims 3-5, lines 28-47, 55-71, which shows the dispersed molybdate to be hydrated, column 3, lines 27-65 and column 4, lines 15-16, which encompasses the instantly claimed detergents of claims 14-17, column 4, lines 15-24 which shows the dispersant phase to contain the instantly claimed diluent oil, and the remainder of the document. Hydrated polymolybdate will be within the amounts of the instant claims 7-8 since the ketones of the patentee are expected to be soluble in the dispersant phase and therefore not part of the "dispersed phase". "Colloidal" of the patentee and the similarities in processing indicate that the particle sizes and turbidity and clarity of the patentee's dispersions are those of the instant claims 9-11. The methodology of the patentee falls within the scope of the instant claims 18 and 43 and claims 19-23, 26-34, 44-45, 49-51, and 54-62, which depend from claims 18 and 43. The

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patentee adds their dispersion to lubricating oil to give a composition falling within the scope of that of the instant claims 35-37, 39-40, with claims 40 and 42 being met by the amounts of ketone prior to removal of the ketone.

It would have been obvious to one of ordinary skill in the art at the time of the instantly claimed invention to use the instantly claimed combinations of ingredients and amounts thereof and the methods of making the instantly claimed compositions because they are encompassed by the patentee and would have been expected to give the benefits disclosed by the patentee. It would have been obvious to one of ordinary skill in the art at the time of the instantly claimed invention to use the acids of claim 48 because they are encompassed by “mineral acids” of column 2, lines 32-35 and would not give the chlorine content not desired by the patentee at column 2, lines 37-42. It would have been obvious to one of ordinary skill in the art at the time of the instantly claimed invention to use the instantly claimed polyalkylene succinic anhydrides as the dispersants of Price because Valcho et al. shows such dispersants to improve the efficiency of molybdenum incorporation into similar dispersions and to improve product clarity at column 2, lines 31-37 and these improvements would have been expected in the compositions of Price.

The applicant argues that the patentee does not disclose the instantly claimed invention as argued at page 15, lines 5-12 of their arguments. The applicant has not shown the colloidal dispersions of the patentee to not possess the instantly claimed clarity nor that the polymolybdenates of the patentee are not the major phase of the resulting colloid disperse phase nor that the dispersions are not stable. As stated above, it appears that the components and processing are the same as those of the instant claims and would have been expected to yield the instantly claimed clear dispersion, as indicated by “colloid”. The applicant provides no

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probative evidence to the contrary. See MPEP 2112-2113. The applicant argues regarding “Molybdenum: The Element and Aqueous Solution Chemistry, Vol. 36.1, pp. 1256-1264. This contradicts the reference cited below. Thus, the examiner cannot tell which reference is correct. There is no probative evidence that the prior art low pH compositions do not form the polymeric molybdenates. Furthermore, it is not seen that the dimer is not polymeric either. The applicant argues that Example 4 of their specification shows that Example 2 of Price would be hazy. This is not commensurate in scope with the full disclosure of Price nor example 2 of the patentee. It is therefore not seen that the processes of the patentee do not make the instantly claimed clear dispersions as indicated by “colloidal” of the patentee. It is further not seen via probative evidence that the method of example 2 of the patentee that gives a colloidal dispersion does remove too much water, according to the instant invention, does not contain polymeric molybdenate, and is not clear. The reference resubmitted, “Molybdenum Compounds”, Vol. 16, page 941, states that below pH of 7 the polymeric forms of the molybdenates exist.

The Nelson declaration of 7/24/08 has been fully considered. It attempts to show that use of the instantly claimed surfactants, as disclosed by Valcho, would not give stable colloidal suspension comprising a dispersed phase comprising a major amount of one or more dispersed hydrated polymeric compounds selected from...polymolybdates and an oil phase comprising one or more dispersing agents selected from the group consisting of polyalkylene succinic anhydrides, non-nitrogen containing derivatives of a polyalkylene succinic anhydride and mixtures thereof and a diluent oil wherein the colloidal suspension is substantially clear. The declarant gives comparative examples 1 and 2 which are exemplary of example 2 of Price. Example 2 is not commensurate in scope with the full teachings of Price as previously noted.

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The declaration is not therefore commensurate in scope with the full disclosure of Price and is therefore not persuasive on this ground alone. The declarant forms a hazy solution. It is not seen that the declarant follows the advice of Price and adjusts water as necessary as taught by column 2, lines 28-31 to give a complete solution. It is noted that "hazy" is contrary to "solution" also. It would seem that this difference from the prior art is sufficient to determine that the declarant did not follow the instructions of the patentee Price fully even prior to adding the above discussed and instantly claimed surfactant. It is not seen that care was taken in selecting an HLB of the surfactant so as to match that of the dispersions of the declarant's comparative examples and the dispersions of Price so as to obtain the colloidal dispersions of Price. The parameter is well known and could easily be selected to as to not give the colloids of Price just as easily as the ordinary skilled artisan could choose this value to give the stable colloidal dispersions of Price. Price discloses no malodorous black solid. It is thus unclear if the example of the declarant makes the same thing as Price at all possibly due to the initial failure to make a complete solution as taught by Price. The failure of the declarant to achieve a colloidal dispersion according to Price cannot be attributed to the choice of surfactant therefore.

All of applicant's arguments as to what the cited prior art does not disclose are met by the above rejection. These arguments are not persuasive therefore. There remains no evidence of unexpected results stemming from the above stated difference between the cited prior art and the instant claims. The argument that the instantly claimed polyalkylene succinic anhydrides are acidic dispersing agents ignores the term "derivatives" which encompasses salts thereof with excess base to neutralize the anhydride moieties, which technically are not acidic, as argued by the applicant, to give carboxylate anions which are more soluble in hydrophilic liquids, such as

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water than the acid groups or anhydride groups and are encompassed by "derivatives" of the instant claims. Valcho et al.'s discussion of overbasing of column 2, line 66 to column 3, line 3 is cited in this regard with the physics being such that the smaller particles will give clear dispersions rather than turbidity when the dispersed particles are large enough to give the Tyndall effect. The applicant's arguments in this regard are therefore not commensurate in scope with the instant claims. Applicant's request for clarification of the cited portion of the last office action at page 21 of their response is noted. The section discussed could not be stated more clearly. The key issue is that the first four sentences of the section of the prior office action cited at page 21 of the applicant's response are not rebutted by probative evidence and the examiner cannot tell from the discussion of the references what actually occurs in the patentee's process. The cited references do not cure this given that the prior art low pH discussed appears to give the polymeric molybdenates, as discussed, per page 941 of "molybdenum "Compounds" submitted by the applicant. No probative evidence to the contrary exists to rebut this. Thus, it remains the examiner's position that the cited process of the patentee makes the instantly claimed portion of the instant claims requiring that the colloidal dispersions possess the instantly claimed clarity and that the polymolybdenates are the major phase of the resulting colloid disperse phase and that the dispersions are stable because it appears that the components and processing of the patentee are the same as those of the instant claims and would have been expected to yield the instantly claimed clear dispersion, as indicated by 'colloid'. The applicant provides no probative evidence to the contrary. There remains no probative evidence that the prior art low pH compositions do not form the polymeric molybdenates, as would be expected from the reference resubmitted by the applicant, "Molybdenum Compounds", Vol. 16, page 941,

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which states that below pH of 7 the polymeric forms of the molybdenates exist." Furthermore, it is not seen that the dimer is not polymeric either. It is further not seen, via probative evidence, that the method of example 2 of the patentee that gives a colloidal dispersion does remove too much water, according to the instant invention, does not contain polymeric molybdenate, and is not clear. The argued normality gives a pH below 7, for which "Molybdenum Compounds", Vol. 16, page 941, states "below pH of 7 the polymeric forms of the molybdenates exist." The examiner has no experimental facilities. Based on the reference just above, it appears that the polymeric forms of the molybdenate may exist. There is not probative evidence that the process of the cited prior art does not give the discussed polymeric compounds, even if they are only dimeric, as dimers are polymers. The examiner cannot determine what is meant by "(depending on the concentration)" or if the conditions of the patentee are such that they give the alleged breakdown. The examiner maintains that probative evidence that the above cited examples of the patentee do not give the polymeric molybdenates is required in view of the differences in teachings of the two references, particularly "Molybdenum Compounds", Vol. 16, page 941, which states that below pH of 7 the polymeric forms of the molybdenates exist."

The applicant's arguments have been fully considered but are not persuasive for the reasons stated above.

This rejection is therefore maintained.

6. Claims 63-75 are allowable over the prior art considered.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to 3 whose telephone number is 571-272-1121. The examiner can normally be reached on Monday to Thursday from 10 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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/Patrick D Niland/
Primary Examiner
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